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AUTHOR Hyland, Anne M.
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ABSTRACT

An instrument which can be used to measure the school library/media ability of students in grades 4-12 was developed in Ohio, using 2,670 students from rural, suburban, and urban settings. The test covers five broad areas: (1) how things are organized, (2) the skills needed to select appropriate resources, (3) the skills needed to use each resource, (4) the skills needed to comprehend the information given, and (5) the skills needed to present the information in a meaningful way to others. Content validity of the test was established by a table of specifications from about 60 national and state elementary, secondary, and college curriculum guides in library/media skills, and through assessment by a panel of 60 Ohio library professionals. Test items were then analyzed and rewritten according to statistical information obtained in the pilot test and according to comments from the panel of experts. Reliability was assessed both by group differences and by item analysis. The test can be used for diagnosing areas where students need library instruction, as a pre-post test to determine effectiveness of library instruction, and to correlate studies between library/media skills and academic achievement. (BK)

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THE OHIO SCHOOL LIBRARY/MEDIA TEST AND MANUAL

by

Anne M. Hyland

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

Anne M. Hyland

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

IR009281

DIRECTIONS TO THE STUDENT

The purpose of this test is to help your teacher or media specialist understand what you know about how to use the library/media center. There will be some questions which will not be familiar to you. Do the best you can and go on to the next question.

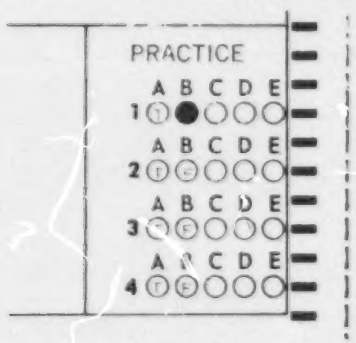
The person giving this test will read the directions out loud. Please read along with him.

1. This is not a timed test. Read each item. If you do not understand a question, go on to the next question.
2. Following each question there are four possible answers. Read each question and decide which answer is correct.
3. Choose the answer which you think is correct and darken the circle on your answer sheet. Mark only one answer for each question.
4. Make a heavy pencil mark on your answer sheet. Erase clearly any answer you wish to change.
5. DO NOT MARK IN THIS TEST BOOKLET.

EXAMPLE QUESTION

Which of the following would you probably find in the school library/media center?

A. a horse
B. a paperback book
C. a car
D. a swimming pool



The correct answer is "a paperback book," which is lettered "B". If this question had been on the test you would have darkened the circle marked "B".

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

1. All the materials in the school media center are the property of the:

   A. librarian
   B. school
   C. principal
   D. teachers

2. In the school media center magazines are located in the:

   A. fiction area
   B. bibliography area
   C. periodical area
   D. audiovisual area

3. In the school media center materials about the real life of a real person are located in the:

   A. geography area
   B. fiction area
   C. biography area
   D. bibliography area

4. In the school media center a story that never really happened called *Snow Mountain*, written by *Herb Drummond* will be located in the:

   A. fiction section
   B. non-fiction section
   C. biography area
   D. Dewey Decimal numbered section

5. The Dewey Decimal system is used in school media centers because it:

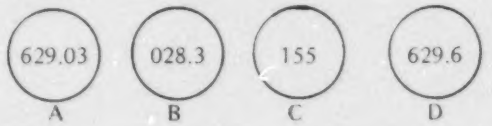
   A. generally groups biographies with other fiction materials
   B. generally groups materials on the same subject together
   C. generally groups magazines with other audio-visual materials
   D. none of the above

6. In the school media center information about cars and airplanes will probably be in which general Dewey Decimal classification area?

   A. 200
   B. 400
   C. 600
   D. 800

Use this information to answer questions 7 and 8.

The following are Dewey Decimal classification numbers for different materials available in the school media center.



7. If the materials above were in proper order on a shelf, which would be the first one?

   A. 629.03
   B. 028.3
   C. 155
   D. 629.6

8. If the materials above were in proper order on a shelf, which would be the third one?

   A. 629.03
   B. 028.3
   C. 155
   D. 629.6

9. If the following titles were arranged in alphabetical order in the card catalog, which one would be the first?

   A. The First Dog Show
   B. Mexican Dances
   C. A Snowy Day
   D. An Ohio Landmark

10. If these authors were arranged in alphabetical order in the card catalog, which one would be the first?

    A. Cathy Apple
    B. Dianna Mattern
    C. Marilyn Alexander
    D. Janet Crandell

11. Which group of words lists a type of resource you would NOT find in a school media center?

A. films, filmstrips, transparencies
B. records, tapes, television
C. birth records, attendance reports
D. books, newspapers, magazines

12. Information about sea shells can be found by studying a:

A. filmstrip
B. globe
C. atlas
D. almanac

Use this catalog card to answer questions 13, 14 and 15.

341.77

The pirates
Poe, John Davis
The pirates; outlaws of the sea.
(Filmstrip) Columbus, OH: SQA,
c1968.

filmstrip: 32fr; col.

13. The catalog card above is:

A. an author card
B. a title card
C. a subject card
D. an analytic card

14. The catalog card above identifies a:

A. book
B. filmstrip
C. periodical
D. videotape

15. The catalog card above provides all the following information:

A. title, call number, pagination
B. author, title, editor
C. author, call number, copyright date
D. editor, place of publication, verso

16. The card catalog will give you location information for:

A. a study print on snakes
B. a magazine article on rockets
C. an encyclopedia article on pottery
D. baseball statistics in an almanac

17. If you know the title of a cassette tape you can use the card catalog to:

A. find out where the tape is located in the media center
B. find out who authored the tape
C. see if the tape is checked out to someone
D. A and

18. Which of the following type of material could be used by a blind student?

A. a picture book
B. a captioned filmstrip
C. a cassette tape
D. a diazo transparency

19. Which of the following is the best source for finding a description of a famous person's life?

A. *Information Please Almanac*
B. *Current Biography*
C. *Reader's Guide to Periodical Literature*
D. *Guinness Book of World Records*

20. Which of the following will probably have **THE MOST** information on how to train birds to do many kinds of tricks?

A. a magazine article
B. a transparency
C. an 8mm film loop
D. a book

21. Which of the following will probably have the **MOST RECENT** information available on a topic?

A. an encyclopedia
B. a book
C. a magazine
D. a filmstrip

Use this information from a periodical index to answer questions 22, 23 and 24.

ASTRONAUTS
Astronauts in business. N. A. Martin. il Duns 100:42-6 D '72
Comedown from the moon; what has happened to the astronauts. H. Muson. il N Y Times Mag p37+ D 3 '72
Greening of the astronauts. il Time 100:43 D 11 '72
Why more astronauts are hanging up their space suits. il U.S. News 3:25-6 D 11 '72
See also
Women as astronauts
Clothing
Total story of Gemini; space suit. il Space World 1-12-108:25 D '72

22. In the example above from a periodical index, how many articles are listed which give information on astronauts?

A. 3
B. 4
C. 5
D. 6

23. In the example above from a periodical index, on what page does the article written by N.A. Martin begin?

A. 37
B. 42
C. 72
D. 100

24. In the example above from a periodical index, the information *Women as astronauts* is:

A. a footnote
B. the title of an article
C. a bibliography
D. a subject heading

25. Which of the following groups of information must you know in order to find a certain article in a magazine in the media center?

A. name of the magazine, title of the article
B. name of the magazine, title of the article, date of the magazine
C. name of the magazine, title of the article, author of the article
D. name of the magazine, author of the article, page where the article begins

26. Information published by the United States Government is indexed in the:

A. *Reader's Guide to Periodical Literature*
B. *Monthly Catalog*
C. *New York Times Index*
D. *Statesman's Yearbook*

27. If the guide words on a dictionary page are **MILL** and **MINGLE**, which one of the following words would be on that same page?

A. mile
B. mind
C. must
D. master

28. The following information is given at the end of an article on *Nuclear Energy* in an encyclopedia. What does it mean?

> See: *Nuclear Power; Atomic Science; The Atom; Bombs and Power*

A. There are other articles related to *nuclear energy* in the encyclopedia
B. *The Atom* is a subheading of *Nuclear Power* and *Atomic Science*.
C. *Nuclear energy* is not a very important topic
D. The encyclopedia is not alphabetically arranged

Use this sample Index to answer questions 29 and 30.

Complete Horse Book

Bridle 95-101, 96, 99, 144-47, 145,
see also Bit
Bucking 298-99

C

Colts, 284-96
driving in long reins 292-93
obedience training 295
riding, 294
Cow Pony; see Domestic Horses
Curb (injury), 164

D

Dealers, 88, 93
Dismounting 174, 194
Domestic Horses 48
Drill, close-order 242, 252
mounted 241-54
open order 242, 246, 252, 254

29. In the example above information on *open order drill* will probably be found on which page?

A. 88
B. 164
C. 242
D. 292

30. In the example above, if you were interested in *cow ponies*, what page would you look for?

A. 48
B. 164
C. 294
D. none of these

Use the following sample Table of Contents to answer questions 31 and 32.

MOON MISSION

1. The First Moon	6
2. To Fly	30
3. A Large Step for Mankind	61
Glossary	93
Index	95
Maps and Charts	97
Tables and Graphs	103

31. In the example above, a map of the moon's surface will be on page:

A. 6
B. 61
C. 95
D. 97

32. In the example above, an alphabetical key to the information in this book will be found on page:

A. 93
B. 95
C. 97
D. 103

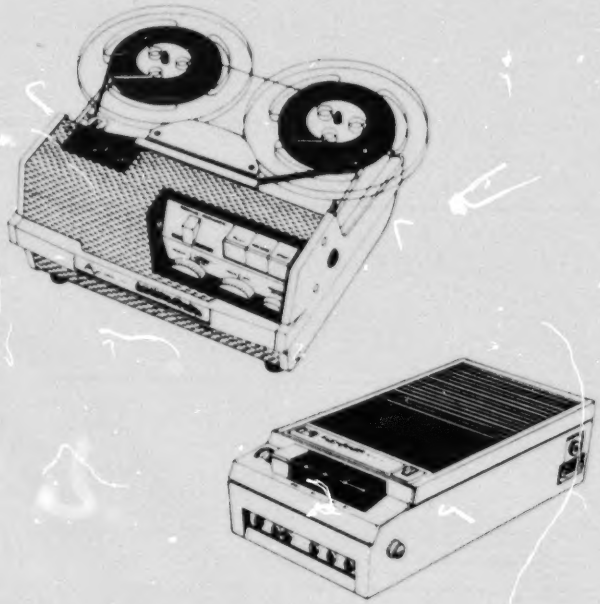
33. Which one of the following pieces of media equipment can be used to show a picture in a book to the whole class?

A. opaque projector
B. filmstrip projector
C. movie projector
D. overhead projector

34. What are the speeds commonly found on record players?

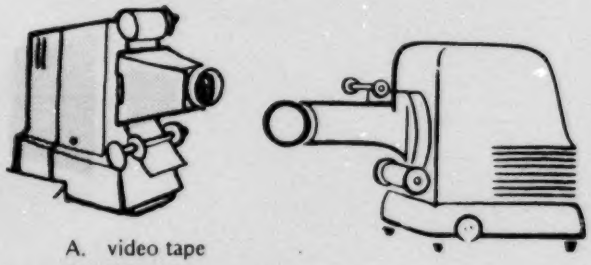
A. 16, 45, 78
B. 33 1/3, 45, 78
C. 30, 60, 90
D. 16 1/2, 27, 81

35. What type of media is used on this type of equipment?



A. transparencies
B. 8mm films
C. filmstrips
D. audio tapes

36. What type of media is used on this type of equipment?



A. video tape
B. filmstrip
C. cassette tape
D. 16mm film

8

Use these sentences to answer questions 37 and 38.

Feeding a sick dog is a personal matter and can be decided only by the condition of the patient. A feeding program must be recommended by your veterinarian after diagnosis of the disease.

37. In the sentences above, what is the main idea or key phrase?

A. condition of the patient
B. feeding a sick dog
C. a personal matter
D. diagnosis of the disease

38. In the sentences above, what does the word "patient" in the first sentence refer to?

A. the veterinarian
B. the dog's owner
C. the dog
D. the disease

39. Which of the following should you do first in order to prepare an illustrated speech on a topic you do not know anything about?

A. make charts and graphs
B. outline your topic
C. use an encyclopedia
D. summarize the main ideas

40. The following are steps a student might use to find information on a brand new science discovery. Which step will probably have information on this new topic?

A. the science textbook
B. the almanac
C. the periodical index
D. the science encyclopedia

41. Which of the following series of events would be the second thing to happen before you could take a photograph of a turtle?

A. focus the camera
B. buy the film
C. develop the film
D. put the film in the camera

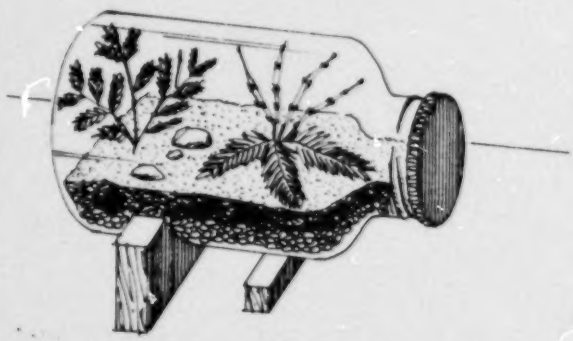
Use this picture to answer question 42.

Waste from this factory is dumped into a nearby river

42. According to this picture, which of the following statements is correct?

A. this factory employs more than 1,000 people
B. this factory is a source of water pollution
C. factory smoke is made from water vapor
D. factories are responsible for most of the pollution in this country

Use this picture to answer question 43.



43. According to this picture of a terrarium, which of the following statements is correct?

A. a dark jar should be used to keep light from burning the plants
B. the lid of the terrarium should be taken off for 2 hours each day
C. terrariums need to be watered every day
D. large jars can be used to make a terrarium

44. Three of the following pieces of information are similar to each other; one is not. Which of the following pieces of information does not belong with the others?

A. audio tapes can be made in the classroom
B. old film can be bleached and reused by students
C. 35mm slides can be made by hand without a camera
D. overhead transparencies can be written on with permanent markers.

45. Which of the following sections of a newspaper lists jobs which are available?

A. editorial
B. classified
C. society
D. front page

46. Which of the following types of newspapers is most likely to include an article about the new television equipment at your school?

A. daily national newspaper
B. monthly national newspaper
C. daily regional newspaper
D. weekly local newspaper

47. Charts and graphs can be made by using:

A. a record player
B. a tape recorder
C. a cassette recorder
D. an overhead projector

48. The way to record a somersault for immediate playback is to use:

A. 16mm film equipment
B. super 8mm equipment
C. video tape equipment
D. audio tape equipment

49. Slides can be made by all of the following ways EXCEPT:

A. using a microphone
B. using a 35mm camera
C. writing on clear film
D. using a copy stand

50. Which of the following could NOT be done in most school media centers?

A. make a chart or map
B. record a story on an audio tape
C. make an overhead transparency
D. make a phonograph record

51. What part of a science project lists all the information sources you used to make your report?

A. the legend
B. the bibliography
C. the introduction
D. the experiment

52. Which one of the following is a bibliography entry for a book?

A. Wenger, Gene. "Early Cooking," page 156.
B. "Early Cooking," Wenger, Gene. Boston: Brown, 1968.
C. Wenger, Gene. Early Cooking, Boston: Brown, 1968.
D. Early Cooking, by Gene Wenger, Boston: 1968.

53. *New Styles for Old Hats* is an article by *James Love*. It appeared in *June 16, 1976* of *News Report Magazine* on page 60, 61, and 62. Which one of the following is the proper way to list this information at the end of a report?

A. "New Styles for old Hats," June 16, 1976 News Report Magazine. page 60-62.
B. Love, James. "New styles for old hats," News Report Magazine, June 16, 1976, p-60-62.
C. Love, James. News Report Magazine. page 60.
D. News Report Magazine "New styles for old hats," by James Love. June 16, 1976, p.60-62.

1. CHECK YOUR ANSWERS.
2. TURN IN TEST BOOKLET AND ANSWER SHEET.

MANUAL FOR

OHIO SCHOOL LIBRARY/MEDIA TEST

IR009281

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developed by
Dr. Anne M. Hyland
236 E. Clearview
Worthington, Ohio 43085

Test booklets are copyrighted. Classroom sets of 30 reusable test booklets are available for $25.00 from the developer. Purchase orders can be accepted.

Complete copy of entire research study which developed this test is available.

DEVELOPMENT OF TEST

Overview. For one hundred and fifty years it has been assumed that students who have access to school library facilities will learn to use those facilities in such a way as to increase their academic success. A dozen research studies have attempted to establish such a relationship, but have been limited by the lack of a suitable measurement instrument. Library skills tests which have been developed over the years are not adequate for current use because they (a) are out-of-print, (b) are not statistically supported, of (c) do not measure all skill areas.

This study, therefore, developed an instrument which could be used to measure school library/media ability in fourth through twelfth grade students. In order to insure a reliable test the developer was concerned with assuring content validity, and construct validity in the form of group differences, item analysis and internal consistency.

Methodology. The study was divided into two phases. The first phase was concerned with establishing the content validity of the test. Content validity is the systematic examination of the test content to determine whether it covers a representative sample of the behavior to be measured.

During this first phase a table of specifications was developed by consulting a collection of about 60 national and state elementary, secondary, and college curriculum guides in the field of school library/media skills; national, regional, and state standards; and professional judgements. All possible skills cited were noted and tallied. Total tallies for each category were adjusted to percentages of the total category so that each would carry equal weight in the final analysis. Pilot instrument items were written in the same quantity and for the same skills as those identified in the table of specifications. The skills fell logically into five broad areas: Organization, Selection, Utilization, Comprehension, and Production. These were arranged on the test in hierarchical order from skills requiring least cognitive ability to those requiring the most ability.

Content Validity of the instrument was also assessed by a panel of 68 persons. These were persons who were officers or chairpersons of the Ohio professional school library media association, and persons whom the association has identified to assist with regional accreditation inspections. The pilot instrument was also administered to 135 students. A difficulty index, a discrimination index, a coefficient of internal consistency and a correlation coefficient were obtained from the pilot testing.

The second phase began by analyzing and rewriting test items according to the statistical information obtained in the pilot testing, and according to the comments and concerns of the panel of experts. (Table 1 identifies the relationship between questions developed and specific skills). The second phase was also concerned with establishing acceptable levels of construct validity. Construct validity is an analysis of the meaning of test scores in terms of psychological concepts. In this study evidence supporting the construct validity was measured in the pilot study by comparing scores of students with previous library media training against scores of students without previous training. Evidence support-

ing the construct validity on the final testing was measured by comparing various student and school district factors against student scores and by item analysis and internal consistency.

Group Differences. The school and student factors were designed to identify group differences as well as account for possible external factors. These factors were: availability of a library media center, availability of full or part-time library media professionals, availability of full or part-time aides or volunteers, the relative wealth of a school district, and the relative wealth of the school system. Analysis of Variance techniques were used to determine what effect each had upon student scores.

Item Analysis. A discrimination index and a difficulty index were obtained for each item on the final instrument. Discrimination index scores of .3 or greater would indicate a moderate to high correlation with a person's overall test score. Difficulty index scores between .3 and .7 would indicate test questions in the middle range of difficulty.

Internal Consistency. Internal consistency is an indication that the test items measure the same variable. The expectation was that the test items in the **Ohio School Library Media Test** would correlate with the total test at a technically acceptable level of .7 or above. Such evidence would serve to support the internal consistency of the instrument. The statistical procedure used to test this expectation was the Kuder-Richardson 20 Formula.

RELIABILITY

Construct Validity–Group Differences. Student scores were analyzed according to five groups: sex, grade, relative cost per pupil, relative wealth per pupil, and type of library assistance available to students. Differences between logical groups would lend construct support to the final instrument. **Sex.** In the final analysis females scored higher than males. This is in keeping with research findings in the field of sex differences. **Grade Level.** Higher grade levels scored highest on the test. This is in keeping with the basic assumption of the test, that skills are learned and perfected through time and practice. **Cost Per Pupil.** Student from districts which spent most per pupil for education scored highest. This supports generally held assumptions of school finance. **Wealth Per Pupil.** Students from the least wealthy and the most wealthy districts scored highest. Taking into consideration Ohio school finance structure, the wealth of the district was not as important as the community's desire to provide a quality education for their students. This finding supported that notion. **Available Assistance.** All combinations which included a full time professional scored higher than any combination with a part-time professional. It is logical to expect that full time assistance will be more effective than part time assistance. These findings supported the construct validity of the test.

Construct Validity–Item Analysis. A discrimination index of .3 or greater and a difficulty index between .3 and .7 would lend construct support to the final instrument. Eight of the questions have discrimination index scores below

.3, all others were greater than .3. Difficulty index scores for grades 4-9 and for combined grades were between .3 and .7. Scores for grades 10-12 were only slightly above .7. The reported scores generally support the construct validity of the final instrument.

Construct Validity–Internal Cosistency. A technically acceptable level of .7 or above was expected for the K-R 20 correlation and would indicate a high degree of homogeneity. The correlations are the strongest (.85 to .89) for the total test (53 questions). Individual subsections correlate less well (.47 to .72). In each case the Production subsection correlation is the weakest (.35 to .52). The correlations indicate that the total test is the best predictor of a student's library/media ability.

A Varimax rotated factor analysis was also obtained on the test items. It identified clusters of items which had some relationship to each other. Thirty-four (64%) of the 53 items were identified on the analysis. The eleven factors identified did cluster as expected, although not all items clustered.

NORMS AND SCALES

Grade Level Norms. The norms from the final testing are a level of achievement of the student population who took the test. Students with similar characteristics could be expected to perform on the test in a similar manner. The grade level norms and standard deviations from the final testing are provided in Table 2.

The student sample was 2670 students. The test was administered in May of 1978. The students represented 33 school districts from across Ohio, and represented an equitable distribution from rural, suburban and urban settings.

AIDS TO INTERPRETATION OF SCORES

Content Domain. The test is based on several assumptions. **One**: That school library/media skills stay constant, but students become better and better users as they practice the skills in realistic situations. **Two**: nonprint items are as important as print forms for information gathering. **Three**: Previous library tests viewed library skills in terms of classes of information sources, rather than approaching the area from the thought processes students must use in order to be successful media center users. **Four**: If you were to read the questions for previous library tests and imagine the type of setting they were describing you would picture a totally print world. This image does not match with today's school library media center.

The five broad areas identified in the test are arranged in logical thought process order. The **first** section is Organization–as a student enters the media center space, what needs to be known about how things are organized in order to find what is needed? **Second**: Selection–once a student is familiar with how things are arranged, what skills are needed in order to select appropriate re-

sources? **Third**: Utilization–once a student has selected several resources, what skills are needed in order to make proper use of the resource (this includes print and nonprint resources). **Fourth**: Comprehension–once the skills for locating the appropriate parts of a resource are used, what skills does a student need in order to understand the given information? **Fifth**: production–once the student understands the concepts and ideas available, what skills are needed by the student to present that information in a meaningful way back to others? Writing reports are included in this last section, along with other ways students share what they have learned with others.

Test applications. The test can be used to identify specific skills students need further instruction in; or it can identify one or more specific subsections where students need additional instruction; or the overall test score can provide an indication of a students general library media ability. This score can also be compared to the norm sample to compare one group of students to the sample group of students.

ADMINISTRATION AND SCORING

The test is designed to be taken by students in grades 4 through 12. Students should have an uncluttered and cleared area. They will each need a pencil, a test booklet, and an answer sheet.

The instructions on page one should be reviewed with the students. These instructions are based on the use of a computer readable answer sheet. You may use any type of answer sheet however. Do be certain that each student understands how they are to mark the correct answer on the answer sheet. Also check to be certain that each student has their name and any other information you may wish to have on the top of the answer sheets.

STRESS THAT STUDENTS ARE NOT TO MARK IN THE TEST BOOKLET.

After you are satisfied that each student knows how to mark their answer on the answer sheet, the students may begin. The test is not timed. Students should be instructed to do the best they can. Guessing should be permitted.

When students ask for assistance with vocabulary or other phrases, DO NOT ANSWER THEIR QUESTIONS. Tell them to do the best they can. (I have found that they ask those questions of the teacher when that word or phrase is what is being tested!).

Scoring. Correct answers are provided in this manual. Mark those which students have answered wrong. Do not count question 44. This will give each student one additional point.

You can examine the scores either by the five subsections, or for the total test, or by individual skills (which are noted in Table 1). You will then be able to pin point the most effective place to focus your instruction. If you score the whole test and are considering only the total test score, you can compare your student scores to the Ohio norm sample found in Table 2.

SUGGESTIONS FOR USE

1. The test can be used to identify areas where students do or do not need additional library instruction.

2. The test can be used as a pre-test/posttest to determine the effectiveness of library instruction.

3. The test can be used to verify areas of need when applying for grants or specialized funding.

4. The test can be used for correlation studies between library/media skills and general academic achievement or with specific subject area achievement.

5. The test can be used to determine if special funding such as Title I or impacted funds has an effect on student skills.

6. The test can be used to identify general trends in student library/media ability.

7. The test can be used with various library instructional techniques to determine which is most effective.

8. At the district level the test can be used to correlate unique building or area factors to determine which ones most effect achievement.

TABLE 1

SKILL AREAS OF OHIO SCHOOL LIBRARY MEDIA TEST

Skills	Item Number
Organization	
library citizenship	1
other information agencies	-
organization of library	2, 3, 4
Dewey Decimal	5, 6
Dewey arrangement	7, 8
alphabetical order	9, 10
Selection	
kinds of media available for use	11, 12
parts of catalog card	13, 14, 15
use of card catalog	16, 17
choosing type and level of materials	18, 19, 20, 21
periodical guides	22, 23, 24, 25
Utilization	
use of reference books	27, 28
use of parts of books	29, 30, 31, 32
government documents	26
use of equipment	33, 34, 35, 36
use of other sources	-
Comprehension	
self direction in reading	-
reading skills	37, 38
listening and viewing	42, 43
study and work skills	39, 40, 41, 44
research process	
classify information	
synthesizing	
judgement in use of newspapers, periodicals and indexes	45, 46
Production	
bibliographic form	52, 53
speaking and writing to communicate	51
production of graphics and other media	47, 48, 49, 50

TABLE 2

****Mean Scores and Standard Deviation of Final Instrument**

Grade	No. of Students	Organization	Selection	Utilization	Comprehension	Production	Total
4-6	946	5.607	8.086	5.874	4.741	3.258	27.566**
sd		2.2	2.8	2.3	1.9	1.6	8.5
7-9	832	6.513	9.834	7.014	5.624	3.745	32.731**
sd		1.9	2.5	2.2	2.2	1.6	8.2
10-12	884	7.624	11.216	8.269	7.035	4.869	39.014**
sd		1.7	2.5	2.1	2.1	1.8	8.2

These are the mean scores of the sample of 2670 students. Use these scores to compare your students to this group of students.

** A Mean score is the "norm" average for the group of students who took the test. If your students are similar to these students, your students should score in a comparable range to these students. If your students are different, their scores will be different. The differences could be attributed to many factors. This test provides strong indications that the differences can, possibly, be attributed to the student's school library media ability.

OHIO SCHOOL LIBRARY/MEDIA TEST
correct answers

Organization	
1	B
2	C
3	C
4	A
5	B
*6	C
7	B
8	A
9	A
10	C

Selection	
11	C
12	A
*13	B
14	B
15	C
16	A
17	D
18	C
19	B
20	D
21	C
22	C
23	B
24	D
25	B

Utilization	
*26	B
27	B
28	A
29	C
30	A
31	D
32	B
33	A
34	B
35	D
36	B

Comprehension	
37	B
38	C
*39	C
40	C
41	D
42	B
43	D
*44	A
45	B
46	D

Production	
47	D
48	C
49	A
50	D
51	B
52	C
53	B

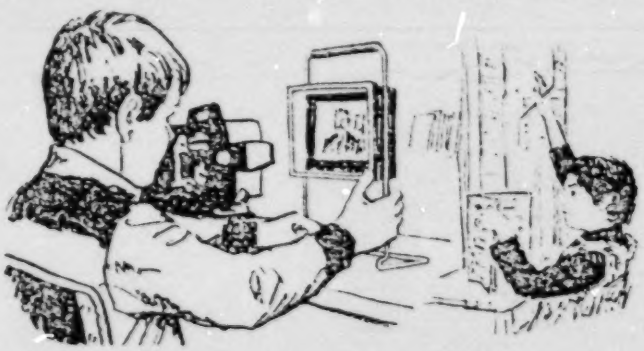
* Items with low correlations, meaning that the answers students selected for these items do not correlate well with the other answers they selected. I judge that students do not know 6, 13, 26. They have not done enough search strategy thinking to answer 39. Question 44 is not well written. It is really the only one on the test which should be disgarded. When scoring simply ignore, thereby adding 1 to each total score.

PROFILE OF LIBRARY SKILLS IN OHIO[1]

Anne Hyland

Problem

We have a theory in the school media profession that media centers in schools benefit the educational process – specifically student achievement. Several years ago I wanted to work with a group of energetic teachers and gather some additional evidence for this theory. But I needed to be able to test student library/media achievement. I needed to know how much students already knew before we began our study and I wanted to be able to see if there had been an increase in achievement after the study. I also wanted to know what specific skills students were weakest in so that I could focus instruction on areas of need.



So, I tried to locate a suitable test for a group of regular, normal every day 6th grade students. No Such Luck. I found mention of some 31 including 9 which were subtests of general achievement tests. Only one had a copyright date after 1970 and it was a reprinting of an earlier test. All were very dated – all dealt with only print materials. There was no statistical information available, they had doubtful reliability, and maybe more importantly, I felt that the tests viewed library skills in terms of classes of information sources, rather than approaching the area from the thought processes students must use in order to be successful media center users. None of the tests had good, strong, positive reviews!

Well, what next? What had people done before when faced with this same problem? I gathered a dozen studies which had tried to examine the relationship between school media programs and any kind of student acheivement. In the cases where student library ability HAD been tested the researchers had developed local instruments for their study. They had not tried to create a statistically sound instrument. As a result their studies were not very generalizable. I did not feel I could use the tests available.

from: **Ohio Media Spectrum**, Vol. 31, No. 4, Winter 1979. Pages 12-17.

[1] This article is based on a presentation made by Anne Hyland at the ALA national convention in Dallas Texas on June 24, 1979 at the AASL Research Forum.

Solution – Construct a Test

Necessity being the mother of invention – I set about to develop an instrument which could be used to measure school library/media ability in 4th through 12th grade students. (Fourth grade is used as the bottom range because of the varied reading level of students below this age.)

The procedures used to develop the test were divided into several steps. I consider the development of the Table of Specifications critical to the whole process because it makes this test very responsive to what we say we are teaching – in contrast to the other tests available which correlate well with each other but not with what we say we do. The Table of Specifications is the list of skills which would be tested. I examined elementary, secondary, and college library curriculum guides from all over the country. I used AASL/AECT national standards, North Central Association standards, and Ohio Department of Education standards; and I used the professional writing of experts in the field. I tallied the skills these sources indicated were important. A list of 27 skills in 5 broad areas emerged. (Table 1.) The test questions were developed for these areas and skills in the same ratios as indicated on the tallies.

I arranged the 5 broad areas in logical thought process order. The first section is *Organization* – as a student enters the media center space, what needs to be known about how things are organized? The second section is *Selection* – once a student is familiar with how things are arranged, what skills are needed to select appropriate resources? The third section is *Utilization* – once a student has selected several resources, what skills are needed in order to make proper use of each print or non-print resource? The fourth section is *Comprehension* – once the skills for locating the appropriate parts of a resource are used, what skills does a student need in order to understand the information given? The fifth section is *Production* – once the student understands the concepts and ideas available, what skills are needed by the student to present that information in a meaningful way back to others? Writing reports are included in this section along with other ways students share what they have learned with others.

For anyone interested in doing their own test construction this next step is most important . . . find lots of friends who are willing to help! I ask Ohio media persons for help and they were overwhelmingly willing to assist. It was very encouraging. It also explains why media programs are as strong as they are – we work with very dedicated, very capable people. Programs are strong because of the people in them.

Next, we did a pilot testing of the first set of test items (the pilot instrument) using a panel of 83 experts, 135 students, and some statistical analysis. The questions were revised according to these findings and the final instrument was administered to 2670 Ohio students in grades 4-12 in May of 1978.

More statistics followed. We had added in, by the way, possible variables such as wealth of the district, money spent per student, and availability of professional media persons, aides, and/or volunteers.

We were very pleased with the results of the final analysis. We had set levels for statistical expectations and these were met or exceeded. We had an internal consistency coefficient of .899 (anything above .7 would have been acceptable.) That .899 is the degree to which the items measure the same variable. We also

established grade level norms based on the 2670 students who took the test. These norms are provided in Table 2.

In question by question analysis there is really only one question which contributes nothing to a student's total test score information. Of the 5 subsections the Production one is the weakest and probably won't give you much useful information about a student's ability if used by itself. The others will.

The test is strong and valid. You can use it to measure a student's library media ability. I have used it with a different group of 6th grade students and I was able to analyze specific weak areas and group students for instruction in those areas. The test could be used to verify a student need when applying for special project money, and could be used in a posttest situation to show the results of some type of treatment. The test could be used to see if students who score high in library/media center ability are also high scorers on other achievement tests. The test is called the *Ohio School Library/Media Test* and has 53 questions in 5 skills areas.

On the Way to Constructing a Test

I have some other bits of information which are not related to construction or validation of the test; but are very interesting and turned up on the way to constructing the test. We used the answers from the 2670 students to establish the statistical base. However, it also gave us a good idea about what skills students have or have not mastered. One of the assumptions of the test construction was that student skill increases over time. That is, as students get older they learn more, practice more, and score better on this test. So, by examining the response percentages for the grade levels we can tell if increases had or had not taken place as expected.

Increases – this they learned

There are 7 areas where knowledge had increased:

1) Students learn most of the library terms, such as fiction, nonfiction and periodical (Biography is still fuzzy for most however.)
2) The greatest increases of all those reported were for placing Dewey numbers in proper order. By the upper grades this is learned!
3) Students learn well what types of resources media centers can provide.
4) Students learn well how to use reference books and encyclopedias, including table of contents and the index.
5) Students learn what type of media is appropriate for specific types of equipment.
6) Students are familiary with sections in newspapers.
7) Students get better at using context clues and illustrations when reading for meaning.

Small increases – this they have not learned

There were 5 areas where there was little if any increase in knowledge over

time. Either we don't teach these areas – or they really are not needed by students – or students need more practice in these areas – or all of the above.

1) This was the least well learned of all. There was practically no change over time. Students did not know which Dewey classification sections were associated with which broad subject areas. I suspect students never need to know this – or we never really teach it – but it was included on almost EVERY guide or standard I consulted during the test construction process.

2) Students did not learn what types of catalog cards are available, they did not know what information was provided on the card, they did not learn how the card catalog could be used (and not used), and they did not learn *library* alphabetical order. Considering all the time these catalogs take to maintain, we ought to teach better, or re-examine our use of the card catalog as the index to "everything".

3) Students did not learn to use a periodical index and did not learn what information is needed to find a periodical article.

4) Students did not learn how to begin to approach a research topic. I wasn't surprised about this one, but I was disappointed. We certainly ought to do better in this area.

5) Students did not learn bibliographic form – again, no surprise.

Other Bits of "isn't – that – interesting"

Something else I ran across on my way to this test. As I compiled the percentages for the tallies it was obvious that elementary and secondary people don't talk to each other much. Elementary guides put 51% of their total skills in the first 2 of the 5 subsections. This is to be expected -- you'd want to get the basics down well in the elementary grades. On the other hand, secondary guides put 57% of their total skills in those same first 2 subsections. Surely this is an overemphasis for secondary students. Maybe they really are as bored as they say. There are also 4 times as many elementary guides as secondary guides available, and maybe 5 of the 85 were K-12 sequenced. That does not speak well about our total media program efforts.

When we looked at the extra variables we had considered we found that it doesn't matter how wealthy the district is. It is more important how much parents are willing to support the education system. It also appears that a full-time ANYONE is more effective than a part-time anyone. Further study needs to be done with this one. Many of the larger school districts in Ohio, and a few of the small ones, use part-time professionals in elementary buildings. If such a practice contributes slightly or not at all to students achievement, alternative methods need to be explored.

One more aside. All of the subtests of the general achievement tests included map and chart reading as a skill in the library or study skill subtest. Not a single library/media guide or standard included that as a skill.

So What

So, we now have a test. It has been used on a large sample of students in Ohio, and for the record, it has been used on a large scale in North Carolina. We

know in what skill areas students do best, and we know in what skill areas students do not do well. We need to examine those weak areas and, perhaps, make a concentrated effort to put special emphasis in those instructional areas – provide more practice, provide teachers with ways to provide more practice.

We probably need to look at ourselves too, and examine our professional approach to library/media skill instruction. Does it work with the curriculum – from the beginning to the end? Or does it stand as another subject for students to learn?

I am hopeful that the availability of the test will provide useful information about student library/media ability. I also hope it will be useful to guide appropriate instruction.